

# SEQUENCE LISTING

<110> CHEN, Li How  
MEADE, Harry

<120> NOVEL MODIFIED NUCLEIC ACID SEQUENCES AND METHODS FOR  
INCREASING mRNA LEVELS AND PROTEIN EXPRESSIONS IN CELL  
SYSTEMS

<130> 107.637.121B

<140> U.S.S.N. 09/175,683

<141> 1998-10-20

<160> 8

<170> PatentIn Ver. 2.0

<210> 1

<211> 1065

<212> DNA

<213> preferably, a bacterium, virus, or parasite

<400> 1

```
gccgtcactc cctccgtcat cgataacatc ctgtccaaga tcgagaacga gtacgagggtg 60
ctgtacctga agccgctggc aggggtctac cggagcctga agaagcagct ggagaacaac 120
gtgatgacct tcaacgtgaa cgtgaaggat atcctgaaca gccgggtcaa caagcgggag 180
aacttcaaga acgtgctgga gagcgatctg atcccctaca aggatctgac cagcagcaac 240
tacgtggtca aggatcccta caagttcctg aacaaggaga agagagataa gttcctgagc 300
agttacaact acatcaagga tagcattgat accgatatca acttcgccaa cgatgtcctg 360
ggatactaca agatcctgtc cgagaagtac aagagcgatc tggattcaat caagaagtac 420
atcaacgata agcagggaga gaacgagaag tacctgccct tctgaacaa catcgagacc 480
ctgtacaaga ccgtcaacga taagattgat ctgttcgtga tccacctgga ggccaaggtc 540
ctgaactaca catatgagaa gagcaacgtg gaggtcaaga tcaaggagct gaattacctg 600
aagaccatcc aggataagct ggccgatttc aagaagaaca acaacttcgt cgggatcgcc 660
gatctgagca ccgattacaa ccacaacaac ctgctgacca agttcctgag caccggtatg 720
gtcttcgaaa acctggccaa gaccgtcctg agcaacctgc tggatgggaa cctgcagggg 780
atgctgaaca tcagccagca ccagtgtgtg aagaagcagt gtcccagaa cagcgggtgt 840
ttcagacacc tggatgagag agaggagtgt aagtgtctgc tgaactacaa gcaggaaggt 900
gataagtgtg tggaaaaccc caatcctact tgtaacgaga acaatgggtg atgtgatgcc 960
gatgccaagt gtaccgagga ggattcaggg agcaacggga agaagatcac ctgtgagtgt 1020
accaagcctg attcttatcc actgttcgat ggtatcttct gtagt 1065
```

<210> 2

<211> 1088

<212> DNA

<213> preferably, a bacterium, virus, or parasite

<400> 2

gcagtaactc cttccgtaat tgataacata ctttctaaaa ttgaaaatga atatgaggtt 60  
ttatatTTTaa aaccttttagc aggtgtttat agaagtttaa aaaaacaatt agaaaataac 120  
gttatgacat ttaatgttaa tgttaaggat atttttaaatt cacgatttaa taaacgtgaa 180  
aatttcaaaa atgtttttaga atcagattta attccatata aagatttaac atcaagtaat 240  
tatgttgtca aagatccata taaatttctt aataaagaaa aaagagataa attcttaagc 300  
agttataatt atattaagga ttcaatagat acggatataa attttgcaaa tgatgttctt 360  
ggatattata aaatattatc cgaaaaatat aaatcagatt tagattcaat taaaaaatat 420  
atcaacgaca aacaagggtga aaatgagaaa taccttcctt ttttaacaa tattgagacc 480  
ttatatataaa cagttaatga taaaattgat ttatttgtaa ttcattttaga agcaaaagtt 540  
ctaaattata catatgagaa atcaaacgta gaagttaaaa taaaagaact taattactta 600  
aaaacaattc aagacaaatt ggcagatttt aaaaaaaata acaatttcgt tgggaattgct 660  
gatttatcaa cagattataa ccataataac ttattgacaa agttccttag tacaggtatg 720  
gtttttgaaa atcttgctaa aaccgtttta tctaatttac ttgatggaaa cttgcaaggt 780  
atgttaaaca tttcacaaca ccaatgcgta aaaaaacaat gtccacaaaa ttctggatgt 840  
ttcagacatt tagatgaaag agaagaatgt aaatgtttat taaattacaa acaagaaggt 900  
gataaatgtg ttgaaaatcc aaatcctact tgtaacgaaa ataatggtgg atgtgatgca 960  
gatgccaaat gtaccgaaga agattcaggt agcaacggaa agaaaatcac atgtgaatgt 1020  
actaaacctg attcttatcc acttttcgat ggtattttct gcagtcacca ccaccaccac 1080  
cactaact 1088

<210> 3

<211> 88

<212> DNA

<213> preferably, a bacterium, virus, or parasite

<400> 3

tcgacgagag ccatgaaggt cctcctcctt gcctgtctgg tggctctggc cattgcaaga 60  
gagcaggaag aactcaatgt agtcggta 88

<210> 4

<211> 88

<212> DNA

<213> preferably, a bacterium, virus, or parasite

<400> 4

gatctaccga ctacattgag ttcttctctgc tctcttgcaa tggccagagc caccagacag 60  
gcaaggatga ggaccttcac ggctctcg 88

<210> 5

<211> 60

<212> DNA

<213> preferably, a bacterium, virus, or parasite

<400> 5

taactcgagc gaaccatgaa ggtcctcatc cttgcctgtc tgggtggctct ggccattgca 60

<210> 6

<211> 48  
 <212> DNA  
 <213> preferably, a bacterium, virus, or parasite

<400> 6  
 aattctcgag ttagtggtgg tgggtggtgt gactgcagaa ataccatc 48

<210> 7  
 <211> 31  
 <212> DNA  
 <213> preferably, a bacterium, virus, or parasite

<400> 7  
 aatagatctg cagtaactcc ttccgtaatt g 31

<210> 8  
 <211> 1142  
 <212> DNA  
 <213> preferably, a bacterium, virus, or parasite

<400> 8  
 atgaaggctc tcataattgc ctgtctggtg gctctggcca ttgcagccgt cactccctcc 60  
 gtcacgcgata acatccctgtc caagatcgag aacgagtagc aggtgctgta cctgaagccc 120  
 ctggcaggag tctacaggag cctgaagaag cagctggaga acaacgtgat gaccttcaac 180  
 gtgaacgtga aggatatact gaacagcagg ttcaacaaga gggagaactt caagaacgtg 240  
 ctggagagcg atctgatacc ctacaaggat ctgaccagca gcaactacgt ggtcaaagat 300  
 ccctacaagt tcctgaacaa ggagaagaga gataagttcc tgagcagtta caattacatc 360  
 aaggatagca ttgacaccga tatcaacttc gccaacgatg tcctgggata ctacaagatc 420  
 ctgtccgaga agtacaagag cgatctggat agcatcaaga agtacatcaa cgataagcag 480  
 ggagagaacg agaagtacct gcccttcctg aacaacatcg agaccctgta caagaccgtc 540  
 aacgataaga ttgatctgtt cgtgatccac ctggaggcca aggtcctgca gtacacatat 600  
 gagaagagca acgtggaggt caagatcaag gagctgaatt acctgaagac catccaggat 660  
 aagctggccg atttcaagaa gaacaacaac ttctgctggaa tcgccgatct gagcaccgat 720  
 tacaaccaca acaacctgct gaccaagtgc ctgagcaccg gaatgggtctt cgaaaacctg 780  
 gccaaagaccg tcctgagcaa cctgctggat ggaaacctgc agggaatgct gcagatcagc 840  
 cagcaccagt gtgtgaagaa gcagtgtccc cagaacagcg gatgcttcag acacctggat 900  
 gagagggagg agtgcaagtg cctgctgaac tacaagcagg aaggagataa gtgtgtggaa 960  
 aaccccaatc ctacttgtaa cgagaacaat ggaggatgcg atgccgatgc caagtgtacc 1020  
 gaggaggatt caggaagcaa cggaaagaag atcacctgcg agtgtaccaa gcctgattct 1080  
 tatccactgt tcgatgggat tttctgcagt caccaccacc accaccacta actcgaggat 1140  
 cc 1142